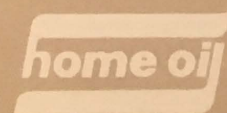
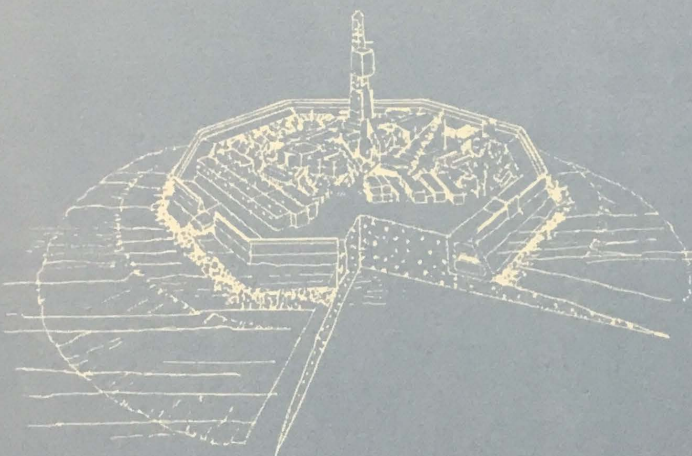


# MACKENZIE DELTA-BEAUFORT SEA Exploration Agreements

## CANADIAN BENEFITS ANNUAL REPORT – 1985



APRIL 18, 1986



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## 1.0 INTRODUCTION

### 1.1 PREFACE

#### 1.1.1 Report Scope

This 1985 Canadian Benefits Annual Report is provided to meet commitments of the Canada Benefits Program associated with the Exploration Agreements between Esso Resources Canada Limited (Esso) and the Canada Oil and Gas Lands Administration (COGLA). The Canadian Benefits Program is described in the document "Canadian Benefits Associated with the Mackenzie Delta-Beaufort Sea Exploration Agreements" of April 1, 1982.

This report:

- o summarizes Esso's field activities for 1985
- o provides status reports for 1985 on Canadian and Northern Benefits in the Beaufort covering:
  - . expenditures
  - . employment and training
  - . supplier development
- o provides updates of Esso's 1986 exploration activities
- o indicates the forecasts for 1986 for:
  - . Northern and Canadian expenditures
  - . Northern and Canadian employment

The content and layout of the report follow the instructions for annual reports issued by COGLA in February, 1985.

This report does not contain statements of Esso's policies for Canadian and Northern benefits, procurement, employment, environmental or other matters. These policy statements have either been issued separately or were contained in the:

- o Mackenzie Delta-Beaufort Sea Exploration Agreements, April 1, 1982
- o Mackenzie Delta-Beaufort Sea Canadian Benefits 1982 Annual Report, issued April 15, 1983



### 1.1.2 Program Associates

The companies participating in the Exploration Agreements as of December 31, 1985 were:

- o AT&S Exploration Ltd.
- o Alberta Energy Company Ltd.
- o Beau Canada Exploration Ltd.
- o Bow Valley Industries Ltd.
- o Canlands Resources Corporation
- o Canterra Energy Ltd.
- o Esso Resources Canada Limited
- o Home Oil Company Limited
- o Lochiel Exploration Ltd.
- o MLC Oil and Gas Ltd.
- o Oakwood Petroleum Ltd.
- o Petro-Canada Inc.
- o Trillium Exploration Corporation
- o Westcoast Petroleum Ltd.

Home Oil Company Limited is the operator of the exploration program. Esso is the agent for implementing the program.

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## 1.2 PROGRAM OVERVIEW

### 1.2.1 1985 Activities

The 1985 drilling program in the Beaufort met or exceeded the employment and business forecasts contained in the Exploration Agreements.

The Canadian content of the Beaufort exploration program was 84% in 1985, 7% higher than last year. From 1982 to 1985, the Canadian content has grown steadily from 62% to this current level. Northern expenditures increased to \$63.3 million in 1985 from \$20.9 million in 1984. Northern employment increased to 3,588 workmonths in 1985 from 2,767 workmonths in 1984.

The following were the drilling, construction, and seismic activities in 1985:

#### Drilling

In 1985, Esso drilled 13 wells in the Beaufort area, 6 offshore and 7 onshore.

The following is a list of the 1985 offshore wells (Figure 1) and their status:

- o Amerk O-09 was spudded on August 23, 1984 and abandoned on March 3, 1985.
- o Nipterk L-19 was spudded on October 3, 1984 and abandoned on March 23, 1985.
- o Nipterk L-19A was spudded on April 21, 1985 and abandoned on July 24, 1985. This well was directionally drilled to delineate the oil discovery of Nipterk L-19.
- o Adgo H-29 was spudded on September 14, 1984 and abandoned on January 12, 1985.
- o Adgo G-24 was spudded on October 7, 1985 and abandoned on January 24, 1986.
- o Minuk I-53 was spudded on November 27, 1985 and is still being drilled.

The spudding of Minuk I-53 was delayed about three weeks because of a severe storm on September 16 and 17, 1985



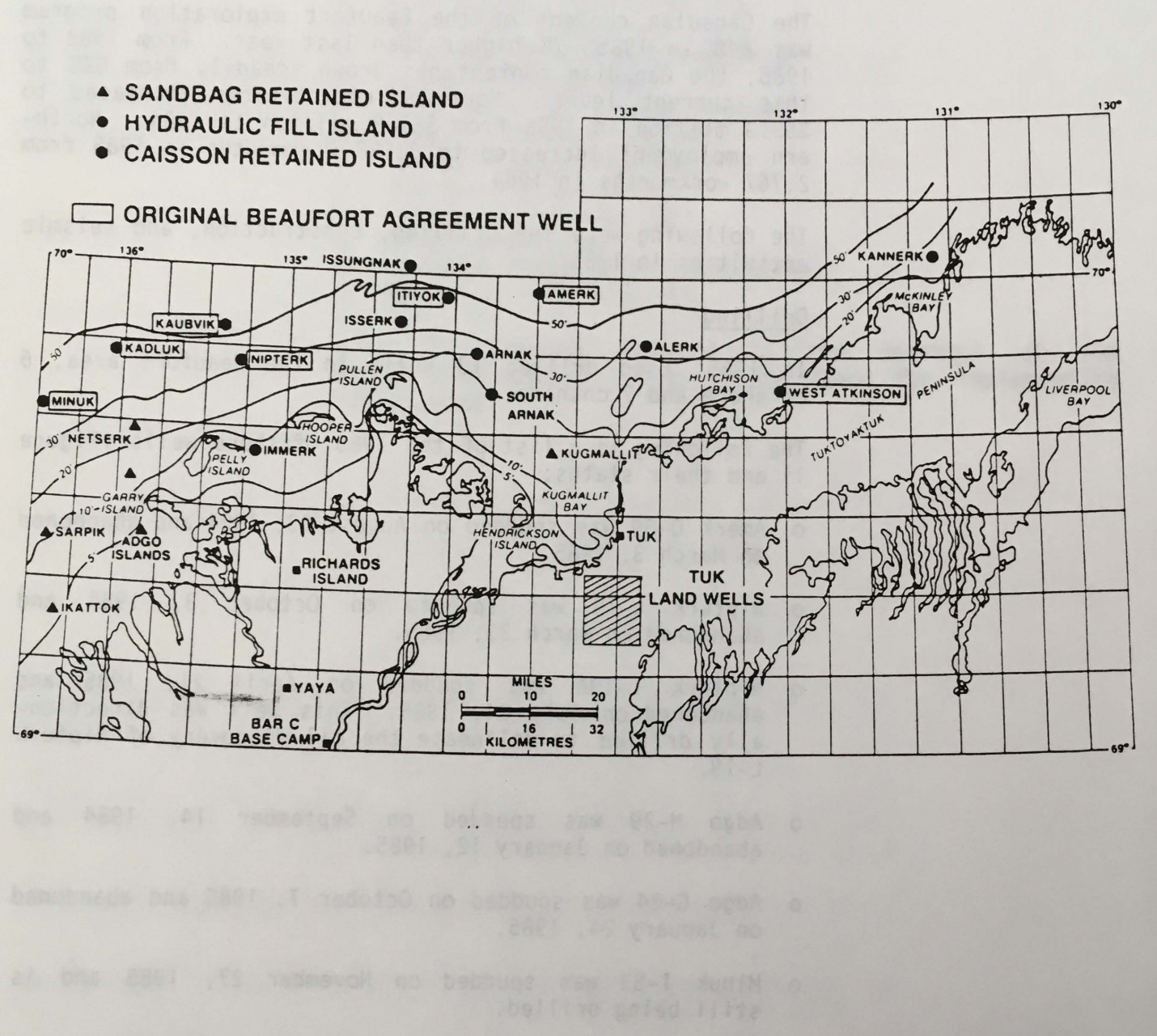


FIGURE 1



which extensively damaged the drilling rig, associated equipment and materials on the island. The site had to be repaired and another rig had to be moved onto the island.

The Kaubvik I-43 well was to be drilled in the summer of 1985 from a caisson-retained island which was to be moved from the Amerk site. This did not occur because ice did not allow the caisson to be moved. Drilling of this well is scheduled for the fourth quarter of 1986.

The following is a list of the 1985 onshore wells (Figure 2) and their status:

- o Tuk J-29 was spudded on January 10, 1985 and abandoned on April 20, 1985.
- o Itkrilek B-52 was spudded on March 21, 1985 and abandoned on April 4, 1985.
- o Taglu H-06 was spudded on March 26, 1985 and abandoned on September 5, 1985.
- o Tuk H-30 was spudded on April 22, 1985 and abandoned on May 6, 1985.
- o Tuktuk A-12 was spudded on December 3, 1985 and abandoned on February 12, 1986.
- o Tuk G-39 was spudded on December 5, 1985 and abandoned on January 6, 1986.
- o Tuk B-40 was spudded on December 8, 1985 and abandoned on January 9, 1986.

The last four onshore wells are part of a seven-well Tuk tertiary program initiated following the discovery of oil at Tuk J-29 and Tuk H-30.

Figure 3 shows the 1985 drilling schedule for the Beaufort onshore and offshore exploration wells.

#### Construction and Support

The following were the offshore construction and support activities in 1985 (see Figure 3):

- o The caisson was removed from the Amerk site for moving to the Kaubvik site.



## BEAUFORT ONSHORE EXPLORATION WELLS

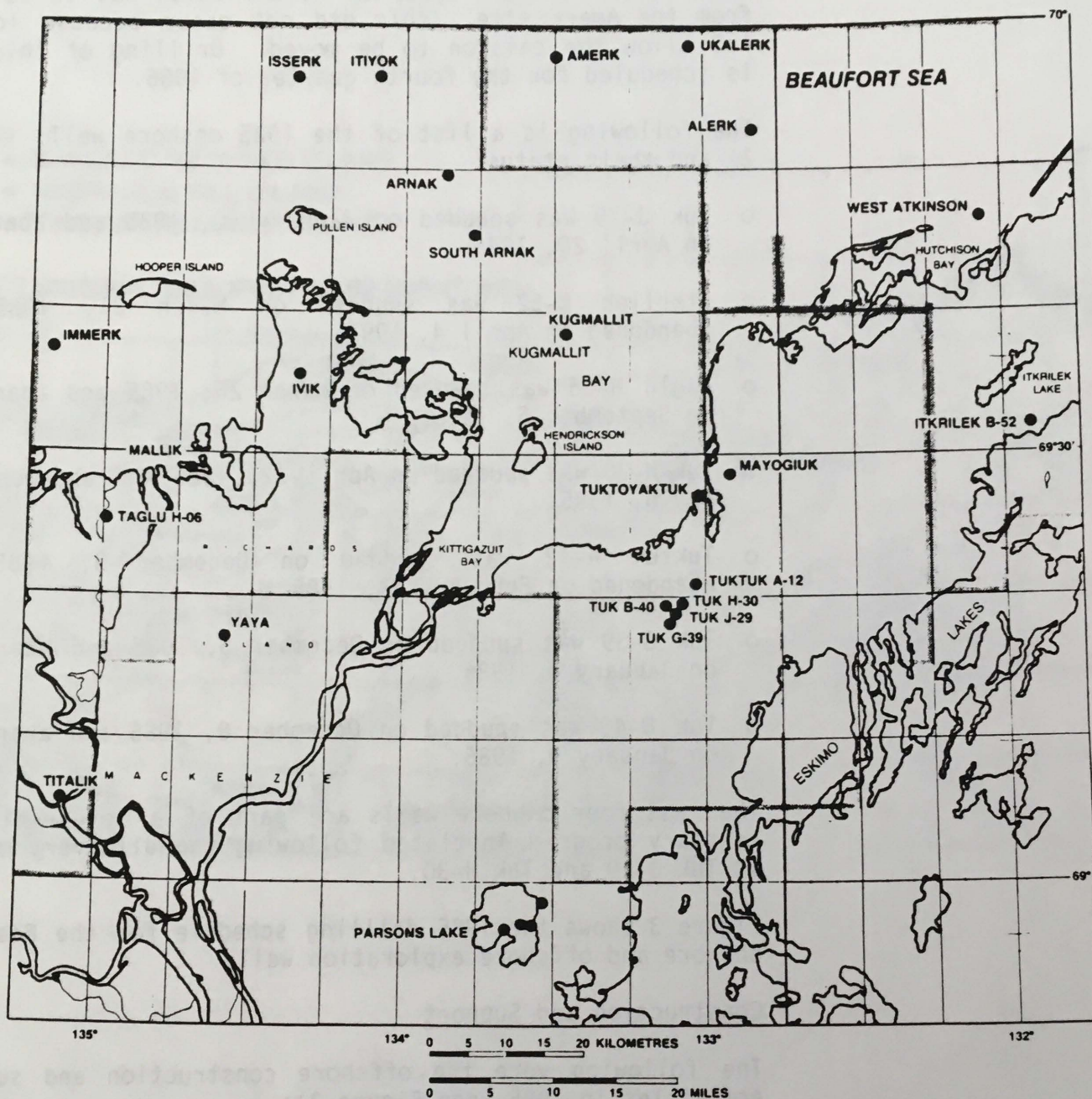
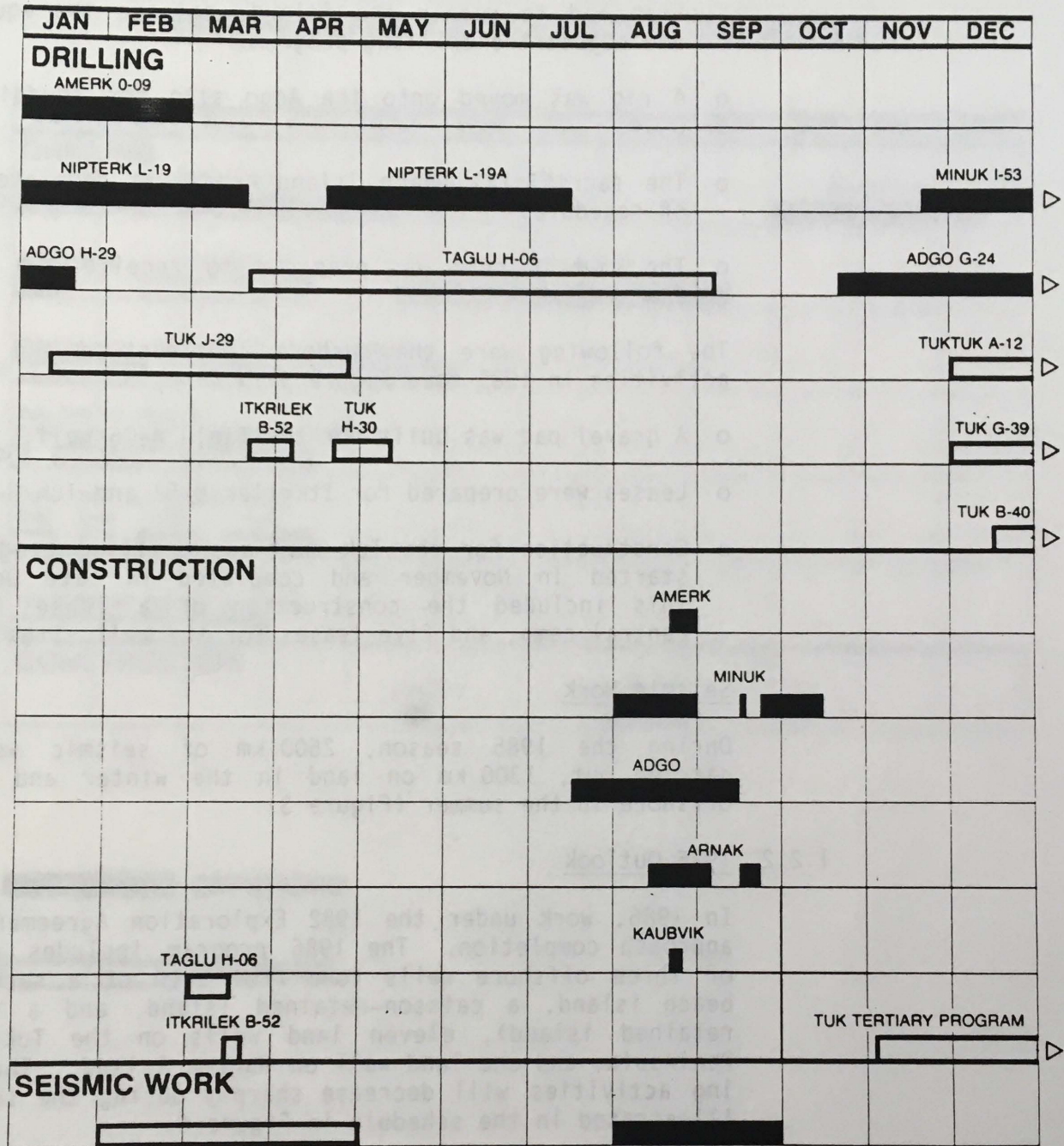


FIGURE 2



# 1985 BEAUFORT EXPLORATION SCHEDULE




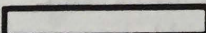
 OFFSHORE  
 ONSHORE

FIGURE 3



- o The sacrificial beach island Minuk was completed in August and then prepared for drilling. The storm in September severely damaged the island and equipment. Esso had to repair the island, salvage the equipment, and adjust the drilling program.
- o A rig was moved onto the Adgo site for spudding Adgo G-24.
- o The sacrificial beach island Arnak was completed ahead of schedule.
- o The Kaubvik berm was prepared to receive the caisson from Amerk.

The following were the onshore construction and support activities in 1985 (see Figure 3):

- o A gravel pad was built for the Taglu H-06 well.
- o Leases were prepared for Itkrilek B-52 and Tuk H-30.
- o Construction for the Tuk tertiary drilling program was started in November and completed in late December. This included the construction of a lease for the central camp, and five leases for the well sites.

#### Seismic Work

During the 1985 season, 2600 km of seismic work was carried out, 1300 km on land in the winter and 1300 km offshore in the summer (Figure 3).

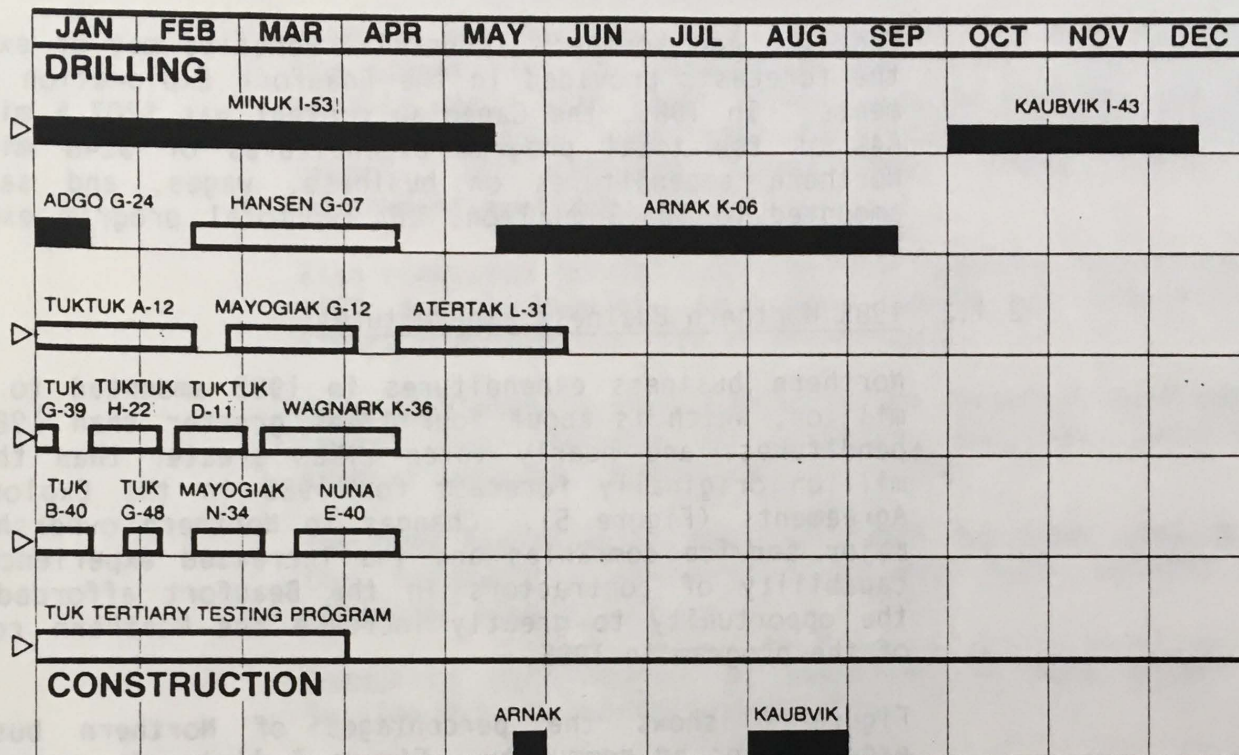
#### 1.2.2 1986 Outlook

In 1986, work under the 1982 Exploration Agreements will approach completion. The 1986 program includes drilling of three offshore wells (one from each of a sacrificial beach island, a caisson-retained island, and a sandbag-retained island), eleven land wells on the Tuktoyaktuk Peninsula, and one land well on Hansen Island. The drilling activities will decrease sharply during the summer as illustrated in the schedule in Figure 4.

Offshore construction during the summer of 1986 will include preparation of the Kaubvik berm and the transfer and placement of the caisson at Kaubvik. Also, the Arnak site will be repaired and prepared for drilling. Onshore, the land drilling sites and shoreline will be cleaned up.



## 1986 BEAUFORT EXPLORATION SCHEDULE



■ OFFSHORE

□ ONSHORE

FIGURE 4



## 2.0 INDUSTRIAL BENEFITS

### 2.1 ASSESSMENT

#### 2.1.1 1985 Program Expenditures

Canadian and Northern Industrial Benefits met or exceeded the forecasts provided in the Beaufort Exploration Agreements. In 1985, the Canadian content was \$207.5 million, 84% of the total program expenditures of \$248 million. Northern expenditures on business, wages, and salaries amounted to \$63.3 million, 26% of total program expenditures.

#### 2.1.2 1985 Northern Business Expenditures

Northern business expenditures in 1985 amounted to \$53.3 million, which is about four times greater than 1984 expenditures, and nearly three times greater than the \$18 million originally forecast for 1985 in the Exploration Agreements (Figure 5). Changes in Northern ownership of major service companies and the increased experience and capability of contractors in the Beaufort afforded Esso the opportunity to greatly increase the Northern content of the program in 1985.

Figure 6 shows the percentages of Northern business expenditures by community. Figure 7 lists, by community, the Northern businesses that were paid more than \$1,000 in 1985.

#### 2.1.3 Forecast of 1986 Expenditures

The updated estimates of expenditures for the 1986 exploration program are \$178 million. This is \$70 million less than in 1985 and reflects significantly lower requirements for goods and services in 1986.

Canadian content will increase slightly in 1986 because dredging costs and foreign charges for financing the caisson will be significantly lower. The Northern expenditures will probably not exceed \$29.0 million (Figure 5).

#### 2.1.4 Consultation

During 1985, Esso continued consultation with governments, communities, business associates and special interest groups to discuss the exploration program's impact on business. Fewer special meetings were needed than in past



years because of the good working relationships Esso has developed with businesses and communities in the North. Northern communities and businesses were contacted regularly by Esso representatives during the course of normal business. Further details are presented in Section 2.2.2, Northern Business Development.

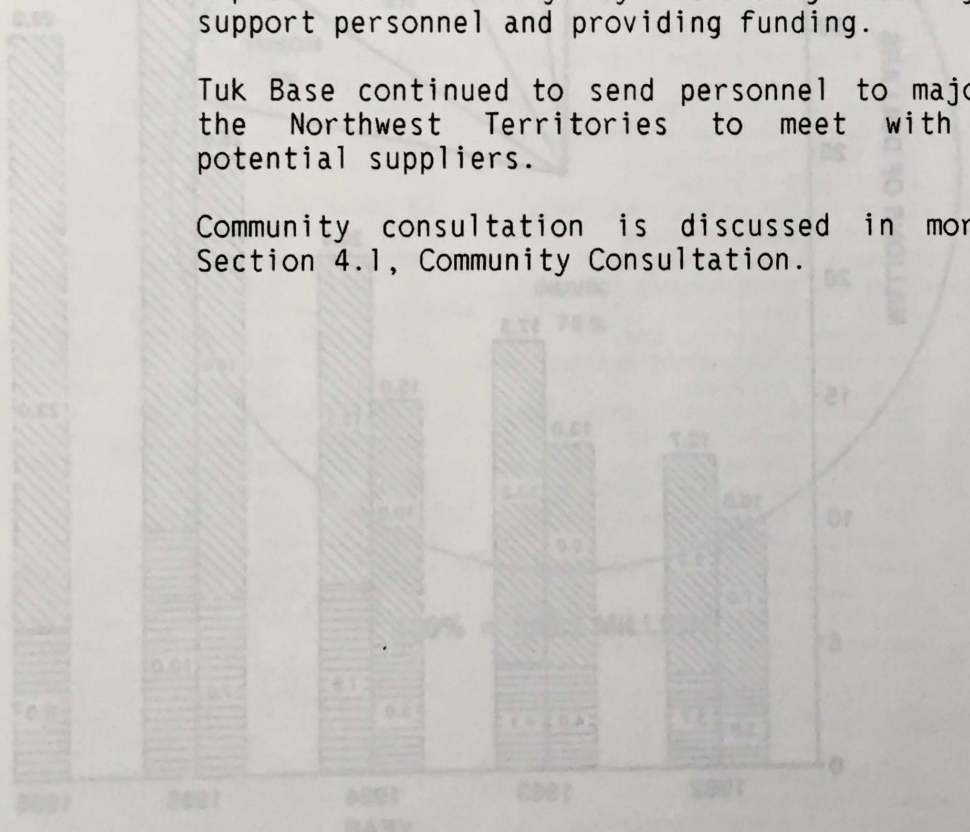
Most of the meetings held in the Beaufort area were with the communities of Tuktoyaktuk and Inuvik. The meetings usually dealt with local issues, program updates, and permits. Meetings were also held with special interest groups, and included career days, trade shows and government meetings.

Esso conducted several tours of its Beaufort operations in 1985 for businesses, government, media and communities. Figure 8 provides a list of these tours.

Esso continued to participate in the Beaufort Development Impact Zone Society by attending meetings, providing support personnel and providing funding.

Tuk Base continued to send personnel to major centres in the Northwest Territories to meet with current and potential suppliers.

Community consultation is discussed in more detail in Section 4.1, Community Consultation.



## NORTHERN BUSINESS AND EMPLOYMENT EXPENDITURES

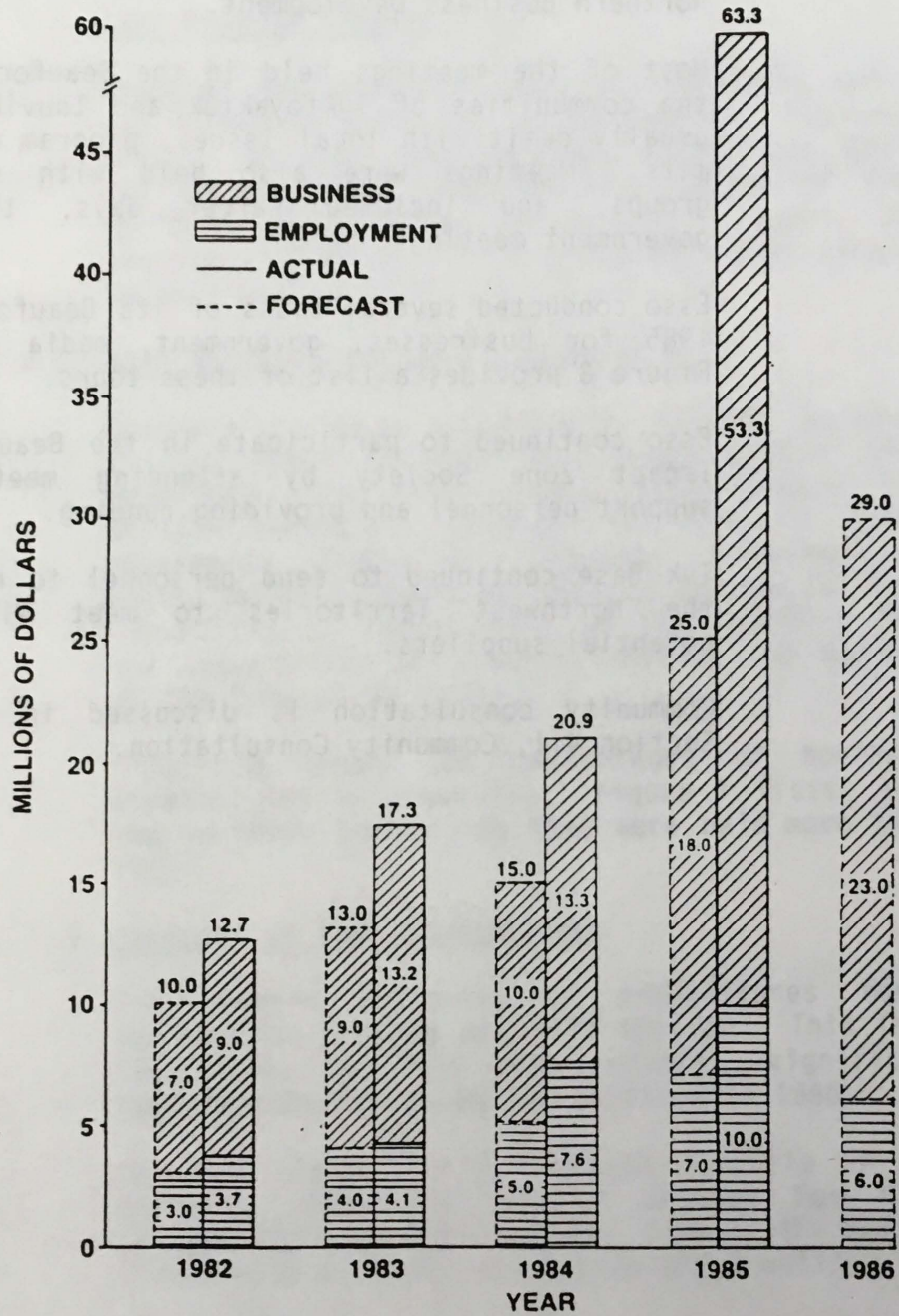
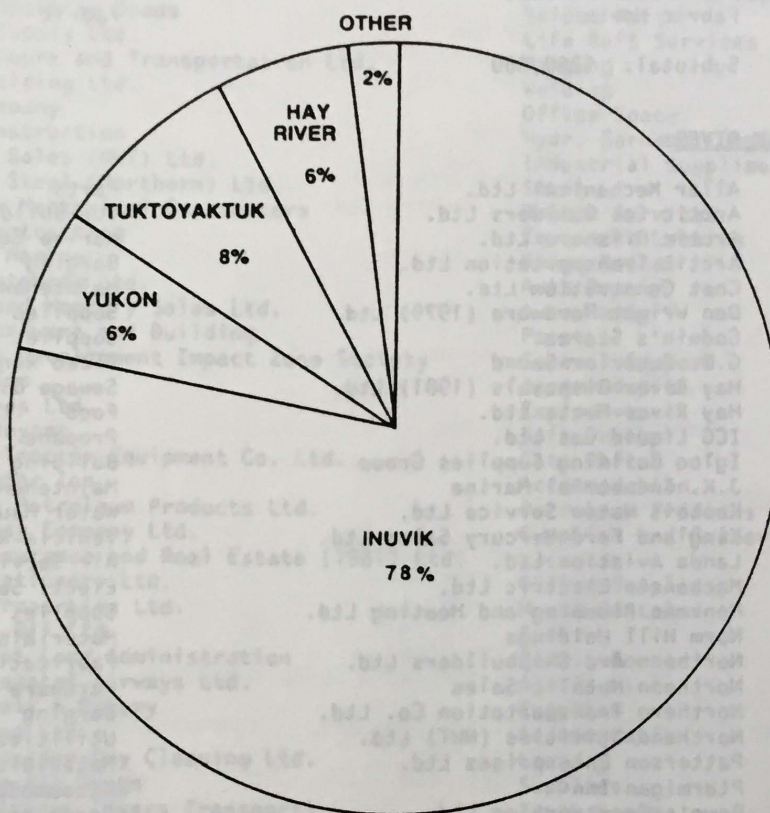


FIGURE 5



## 1985 PERCENTAGES OF NORTHERN BUSINESS EXPENDITURES BY COMMUNITY



100% = \$53.3 MILLION

FIGURE 6

## NORTHERN BUSINESSES PAID MORE THAN \$1,000 IN 1985

<u>Company</u>	<u>Services or Supplies Provided</u>
<u>AKLAVIK:</u>	
Beaufort Environmental Support	Oil Spill Equipment
David Storr & Sons	Environmental Clean Up
Fabric North	Fabric
Subtotal: \$260,600	
<u>HAY RIVER:</u>	
Allar Mechanical Ltd.	Parts
Arctic Ice Builders Ltd.	Ice Building
Arctic Offshore Ltd.	Marine Equipment
Arctic Transportation Ltd.	Barging
Chet Construction Ltd.	Maintenance
Don Wright Hardware (1979) Ltd.	Supplies
Godwin's Stores	Supplies
G.B. Superior Sound	Video Rental
Hay River Disposals (1981) Ltd.	Sewage Disposal
Hay River Meats Ltd.	Food
ICG Liquid Gas Ltd.	Propane
Igloo Building Supplies Group	Building Materials
J.K. Industrial Marine	Maintenance
Keith's Water Service Ltd.	Water Hauling
Kingland Ford Mercury Sales Ltd.	Vehicle Repair
Landa Aviation Ltd.	Air Service
Mackenzie Electric Ltd.	Elect. Serv. and Supplies
Monkman Plumbing and Heating Ltd.	Supplies
Norm Hill Holdings	Materials
Northern Arc Shipbuilders Ltd.	Fabrication
Northern Metalic Sales	Hardware Supplies
Northern Transportation Co. Ltd.	Barging
Northand Utilities (NWT) Ltd.	Utilities
Patterson Enterprises Ltd.	Materials
Ptarmigan Inn	Accommodation
Rowe's Construction Ltd.	Goods and Services
Stan Dean & Sons Ltd.	Trucking
Subtotal: \$3,111,700	
<u>INUUVIK:</u>	
Acklands Ltd.	Industrial Supplies
Aklak Air Ltd.	Air Service
Aklavik Flying Service Ltd.	Air Service
Ando Enterprises	Materials

FIGURE 7 (a)



<u>Company</u>	<u>Services or Supplies Provided</u>
<u>INUUVIK: (Cont'd)</u>	
Andre's Welding Ltd.	Welding
Arctic Dawn Enterprises Ltd.	Janitorial Services
Arcticlean Janitorial	Janitorial Services
Arctic Esso	Fuel
Arctic Laboratories Ltd.	Research
Arctic Painting & Dev.	Painting
Arctic Plumbing	Supplies and Services
Arctic Tire (1980) Ltd. & Arctic Towing	Auto Parts
Arctic Transportation Ltd.	Offshore Marine Support
Atanik Sporting Goods	Skidoo Parts
Av Mar Supply Ltd.	Life Raft Services
Beluga Tours and Transportation Ltd.	Barging
Bob's Welding Ltd.	Welding
Bush Company	Office Space
Carn Construction	Hydr. Garbage Compaction
Century Sales (NWT) Ltd.	Industrial Supplies
Chatham Steel (Northern) Ltd.	Steel
Chisholm Mechanical Contractors	Repair Services
Coady Contracting	Equipment Leasing
Coastal Marine	Barge Rental
Delta Autobody Ltd.	Auto Repair
Delta Ford Mercury Sales Ltd.	Auto Parts
Delta Hardware and Building	Paint
Beaufort Development Impact Zone Society	General Support
Eskimo Inn	Accommodation
Explosives Ltd.	Explosives
Father Ruyant	Soft Drinks
Finning Tractor Equipment Co. Ltd.	Cat. Parts
Finto Motor Inn	Accommodation
Hansen's Petroleum Products Ltd.	Petroleum Products
Hudson Bay Company Ltd.	Supplies and Groceries
Husky Insurance and Real Estate (1981) Ltd.	Licenses
Husky Stationery Ltd.	Office Supplies
Hutton Properties Ltd.	House Rental
Imperial Oil Ltd.	Fuel
Inuvialuit Land Administration	Permit Coats
Inuvik Coastal Airways Ltd.	Air Service
Inuvik Deli & Bakery	Supplies
Inuvik Inn Ltd.	Accommodation
Inuvik Laundry Dry Cleaning Ltd.	Laundry
Inuvik Rexall Drugs	Supplies
J & L Holdings (Byers Transport)	Truck Lease
Jacob Janitorial Service	Janitorial
Jensen's Contracting Ltd.	Equipment Rental
Keen Industries	Trucking
Kenn Borek Air Ltd.	Air Service
Len Cardinal Transportation	Barging
Mac's News	Reading Material
Mack Travel Ltd.	Travel
Marine-Air Cargo Ltd.	Expediting
Marshall Refrigeration	Repairs and Service
Matco Transportation Systems	Freight

FIGURE 7 (b)



<u>Company</u>	<u>Services or Supplies Provided</u>
<u>INUUVIK: (Cont'd)</u>	
Mississquoi Electric (Inuvik) Ltd.	Services
Norm's Building Supplies Ltd.	Building Supplies
North Star Service & Construction Ltd.	Road Construction
Northern Canada Power Commission	Utilities
Northern Metallic Sales (Denuit)	Industrial Supplies
Northwestel Inc.	Telephone
Okanagan Helicopters Ltd.	Helicopter & Crew
PM Supply Service	Service
Pacific Western Airlines	Travel
Photo Script Ltd.	Photography
Pluim Contractors Ltd.	Leasing Equipment
Points North Transportation Ltd.	Trucking and Barging
Polar Electric Davic Ltd.	Electrical Parts
Polar T.V.	TV Service
R. Angus Alberta Ltd.	Cat. Repair & Parts
RDR Sports (1978) Ltd.	Sporting Goods
Roberts Rathole Drilling Ltd.	Pile Installation
Rocky's Plumbing & Heating Ltd.	Plumbing and Heating
Sunrise Helicopters	Helicopter Rental
Tee Jay's Homestyle Bakery	Food
TLR Leasing	Vehicle Leasing
Victor Edward Balla	Electrical Service
Westec Electric Ltd.	Electrical Supplies
Miscellaneous Companies (from Schlumberger's reports)	Services & Supplies
Subtotal: \$41,260,100	
<u>NORMAN WELLS:</u>	
Beaufort Mechanical Services	Services & Supplies
Berwick Oilfield Services	Services
Big Valley Enterprises	Services
Canoal Welding	Welding
Flying 'W' Petro Services	Services
Mackenzie Mountain Service & Rentals Ltd.	Services
Norwel Inn	Accommodation
Norman Wells Transportation Ltd.	Equipment Lease
Norwel Developments Ltd.	Supplies
Page Flight Services Ltd.	Air Service
Subtotal: \$31,700	
<u>TUKTOYAKTUK:</u>	
Alfa Enterprises	Water Truck
Arctic Exploration Services (NWT) Ltd.	Flight Watch
Arctic Transportation Ltd.	Marine Service
Beaufort Food Services	Supplies
Beau-Tuk Marine Services	Personnel, Goods and Services

FIGURE 7 (c)



<u>Company</u>	<u>Services or Supplies Provided</u>
<b><u>TUKTOYAKTUK: (Cont'd)</u></b>	
Beautuk Sterling	Crane
Cockney Services	Water Truck
Dowlands Contracting	Plumbing
E. Felix Enterprises	Bear Monitoring
E. Gruben Transportation Ltd.	Bear Monitoring & Equip.
Fred Wolki Bear Monitoring	Bear Monitoring
Hamlet of Tuktoyaktuk	Harbour Management
Jimmy Jacobsen Bear Monitoring	Bear Monitoring
Jim Raddi	Ship Tracking Crossing
Kikoak Transportation	Employee Transportation
Kroliat Construction	Construction
Lena Kikoak Bus Service	Staff Transportation
McDonald Bros. Electric Ltd.	Elect. Goods & Services
Northern Transportation Co. Ltd.	Offshore Construction
	Support
Phillips Cleaners	Laundry
Pingo Park Lodge	Accommodation
Tuk Enterprises	Supplies
Tuk Vacuum Services	Water Truck
Tuk Tuk Tours & Services	Well Monitoring Survey
Subtotal: \$4,434,000	
<b><u>WATSON LAKE:</u></b>	
David McIlmoyle	Pallets, Boxes
Gisler Construction	Pallets
Grant Stewart	Trucking
Lorne Desrosiers	Sawdust
Northern Auto Supplies	Auto Parts
Nugget Restaurant	Meals
Raketti Construction	Construction
Ray Dyck	Installation
Tilden	Vehicle Rental
Variety Drugs	Cleaning Supplies
Watson Lake Forest Products	Wood
Watson Lake Hotel	Accommodation
Watson Lake Oil Distributors	Grease, Oil, Tank Rental
Subtotal: \$1,216,300	
<b><u>WHITEHORSE:</u></b>	
Boatswain Enterprises Ltd.	Hardware
EBA Engineering Ltd.	Service
Industrial Electric	Personnel
Jacobs Industry Co. Ltd.	Machinery
M & R Mechanical Contractors	Services & Personnel
Midnight Sun Drilling Co.	Rathole Drilling
Northern Canada Power Commission	Electricity

FIGURE 7 (d)

<u>Company</u>	<u>Services or Supplies Provided</u>
<u>WHITEHORSE: (Cont'd)</u>	
Northern Metallic Sales (NWT)	Materials
Northwestel Inc.	Communication
Trans North Turbo Air Ltd.	Air Service
Waterous G.M. Diesel Ltd.	Parts
Whitehorse Motor Ltd.	Parts
White Pass Trucking	Trucking
Yukon Freightlines Ltd.	Trucking
Subtotal: \$2,067,100	
<u>YELLOWKNIFE:</u>	
Explorer Hotel	Accommodation
Federal Business Development Bank	Services
Fred Ross & Associates Ltd.	Personnel
Government of NWT	Landholders
Northwestel Inc.	Telephone
Northwest Transport Ltd.	Trucking
Outcrop Ltd.	Printing
Pacific Western Airlines	Travel
Peterson & Auger Ltd.	Supplies
Territorial Beverages Ltd.	Soft Drinks
Thomson, Underwood, McLellan Surveys Ltd.	Surveying
Type Unlimited	Secretarial
Ptarmigan Airways	Aircraft
Workers' Compensation Board	Fees
Yellowknife Inn	Accommodation
Subtotal: \$298,900	
OTHER COMMUNITIES YUKON:	
Subtotal: \$897,600	
OTHER COMMUNITIES NWT:	
Subtotal: \$47,200	
GRAND TOTAL*:	
<u>\$53,625,200</u>	

\*This total differs from the reported \$53.3 million due to variations in time periods of individual accounts and due to rounding of amounts.

FIGURE 7 (e)



## 1985 BEAUFORT INFORMATION TOURS

<u>MONTH</u>	<u>GROUPS TOURED</u>
January	<ul style="list-style-type: none"> <li>o COGLA Representatives</li> <li>o Native Group from Alaska</li> </ul>
February	<ul style="list-style-type: none"> <li>o Media Personnel</li> </ul>
March	<ul style="list-style-type: none"> <li>o Crew and Company Representatives for Ice Reconnaissance</li> </ul>
July	<ul style="list-style-type: none"> <li>o Department of Energy, Mines and Resources Representatives</li> <li>o Northern Personnel of Employment and Immigration Canada</li> </ul>
August	<ul style="list-style-type: none"> <li>o National Film Board Representatives</li> <li>o Hibernia Assessment Review Panel Members</li> </ul>
September	<ul style="list-style-type: none"> <li>o Representatives from the Environmental Protection Service of Environment Canada</li> <li>o Toronto Board of Trade Representatives</li> <li>o Potential Beaufort Investors</li> <li>o Home Oil Personnel</li> <li>o Members of the Beaufort Development Impact Zone Society</li> <li>o Representatives of Hunters and Trappers Associations</li> </ul>
November	<ul style="list-style-type: none"> <li>o Representatives from COGLA and the Department of Indian and Northern Affairs</li> </ul>
December	<ul style="list-style-type: none"> <li>o Petroleum Incentives Program Representatives</li> </ul>

FIGURE 8

## 2.2 SUPPLIER DEVELOPMENT

### 2.2.1 Canadian Market Opportunities Program

In 1985, Esso Resources was a leading participant in the Canadian Market Opportunities Program (CMOP). This program is an oil industry initiative and has also representatives from government agencies. Esso's participated in the CMOP Planning and Steering committees, and the Opportunities, Communications and Guidelines subcommittees.

CMOP activities during the year were numerous, with the main activity being the production of a CMOP Guide designed to bring together the supply and demand sectors. The Guide was made available to suppliers, oil companies, supplier and manufacturer associations, government agencies, and other interested groups and individuals. The guide includes supply and demand forecasts and identifies supply gaps of certain products commonly purchased in the petroleum industry. The products examined are:

- o pressure vessels
- o compressors, fans and blowers
- o manual valves
- o control valves
- o pipe fittings
- o industrial heat exchangers
- o instrumentation equipment
- o construction, mining and handling equipment
- o pipe and tubing
- o pumps
- o switchgear and protective equipment
- o boilers and boiler parts
- o environmental equipment
- o drilling material and equipment

In addition to the above activities, Esso Resources assisted CMOP in the staffing of an information booth at the BIG '85 Trade Show in Inuvik.

### 2.2.2 Northern Business Development

Business opportunity meetings were held in Yellowknife, Whitehorse, Inuvik, and Hay River.

Esso representatives attended the three-day Whitehorse Trade Show in May and the BIG '85 Trade Show in Inuvik in June.



Magcobar's barite mine at Fireside, B.C., which was opened in 1984 to supply an Esso contract, remained open in 1985. In 1985, Magcobar spent \$2.2 million in Whitehorse and \$1.2 million in Watson Lake to mine barite and transport it to the Tuk Base. Magcobar also now has the capacity to produce enough barite to supply Alberta and to export to the United States.

In 1985, the local Materials Group reviewed recent Esso purchases to identify opportunities for contracting the supply of frequently used materials to Northern companies. Agreements for supplying automotive parts, paint, and safety clothing were established as a result of this review. Both the contracted vendors and Esso benefit from these agreements: the vendors can count on and plan for the contracted purchases and Esso's procurement process is more efficient.

As in other years, Esso monitored its purchase and service orders to obtain an information base for its efforts in increasing the share of spending in the North.

#### 2.2.3 Business Communications

Information on Esso's exploration programs and the participation of Northern business continued to be published regularly in "Esso North."

A Northern Esso employee represented the company at the Inuvik Chamber of Commerce. Through this member, Esso contributed to the preparations of the first trade show in Inuvik called the BIG '85 Trade Show.

Esso employees responsible for Materials and Services continued to frequently contact Northern suppliers. Special pre-bid meetings were held with local contractors to review the business opportunities related to the tertiary drilling program.

#### 2.2.4 Internal Measures

In 1985, Esso took several internal measures to assist supplier development. Esso continued to increase the awareness of its employees and contractors of the company's Canadian and Northern benefits program. Meetings with contractors were held before bid requests were sent out to ensure that the contractors understood Esso's



policies, particularly policies on Northern benefits. Meetings were also held with the contractors four months before the start of winter operations to explain how to complete bids for Esso.

The full-time Materials Supervisor assigned in 1984 to Tuk Base continued to assist Northern purchasers in 1985 and was involved in the review of procurement practices discussed in Section 2.2.2, Northern Business Development.

Esso's Northern Business Directory, which lists Northern supply and service companies, was updated in 1985.

### 2.3 TECHNOLOGY TRANSFER

Esso continued to involve its associates in the operating and technical aspects of the exploration program through associate input into the Technical and Operating committees. Figure 9 lists the information presented to the Technical Committee and Figure 10 lists the information presented to the Operating Committee.

Associates and contractors were also invited to participate in Esso's loss control initiatives in 1985. These initiatives consisted of the following:

- o assigning two full-time loss control advisors to the Beaufort
- o requiring each major contractor to hold loss-control meetings
- o testing the Fitzwright helicopter survival suits and using them on helicopter flights over water
- o training 220 persons at Tuk Base in sea survival
- o developing site-specific loss-control programs (based on Esso's Ten Element Program) for land drilling, sacrificial islands, caisson-retained islands and the Tuk Base
- o holding special seminars for first-line Esso and contractor supervisors on loss-control responsibilities. The following topics were discussed:
  - . cause of accidents
  - . accident trend analyses
  - . the importance of near-miss and hazard reporting
- o conducting internal audits of the effectiveness of the loss-control programs



## Technical Research

In 1985, Esso conducted the research studies listed in Figure 11. This research was under the direction of Canadian companies and was conducted in Canada. Research expenditures in 1985 were \$1.6 million.

#### TECHNICAL INFORMATION PRESENTED TO THE TECHNICAL COMMITTEE

- Pad Design for Taglu H-06 Location
- Kaubvik Casing Design Program
- Tuk J-29 Testing Program
- Tuk J-29 Surveying System
- Tuk Tertiary Program (Testing)
- Key Issues and Procedures for Nipterk L19-A Directional Drilling
- Oil Base Muds for Nipterk L19-A
- Rig Modifications for Oil Base Muds
- Island Abandonment and Scalping Technique
- Kaubvik Relief Well Plan
- Bow Discharge Caisson Filling Technique
- New Materials for Island Construction

FIGURE 9

#### TECHNICAL INFORMATION PRESENTED TO THE OPERATING COMMITTEE

- Well Design
- Ice Road Technology
- Hovercraft Application
- Well Abandonment Procedure in Permafrost
- Permafrost Layer Identification
- Hydrocarbon Occurrence
- Kaubvik Relief Well Plan

FIGURE 10



## TECHNICAL RESEARCH STUDIES

<u>Topic</u>	<u>Description</u>	<u>Participants</u>
COLLECTION OF DATA ON CAISSON-RETAINED ISLAND	Collection and analysis of ice, geotechnical and atmospheric data from the caisson-retained island at Amerk	Esso Research Department
EROSION PROTECTION	Numerical modelling of fine-grained soils to determine erosion rates of island beaches and toe protection needed around the caisson-retained island	Esso Research Department, Acres International Limited
SAND QUALITY	Continued work on the properties of fine-grained soils deposited hydraulically to determine minimum gravel specifications required for building islands with steep side slopes	Esso Research Department Gulf Corporation Golder Associates Komex Consulting Ltd. U of Calif., Davis Hughes In Situ Engineering Ltd.
SOFT FOUNDATION BEHAVIOUR	Examination of the foundation behaviour below exploration islands in the Beaufort to optimize future island structural designs	Esso Research Department, Golder Associates, U. of Calgary
SPRAY ICE PARAMETERS	Field and laboratory tests on the strength parameters of spray ice to assess if a spray ice ridge could be used as a barrier around platforms	Esso Research Department, Golder Associates
DISPERSANTS IN COLD WATER	Large-scale tests of the efficacy of several oil dispersants in cold water	Esso Research Department, Environment Canada (EPS)

FIGURE 11



### 3.0 EMPLOYMENT AND TRAINING

#### 3.1 RECRUITMENT

##### 3.1.1 Recruitment Programs

To increase Northern employment in 1985, Esso:

- o maintained its Inuvik office recruitment staff of four Northerners
- o liaised closely with the major contractors, both before contracts were signed and while the contractors were working, to ensure that Esso's Northern employment policies were followed
- o provided recruitment services through its Inuvik office for its contractors. A number of contractors used these services.
- o adjusted job entrance requirements to allow work experience and demonstrated skills to be considered as a substitute for formal education requirements
- o maintained recruiting activities in most communities of the Western Arctic
- o continued its transportation policy which allows Esso's and contractors' personnel to be transported from most Western Arctic communities to the work sites at Esso's expense

##### 3.1.2 Recruitment Sources

The recruitment of Northern employees by community is shown in Figure 12.

##### 3.1.3 Recruitment Visits

During 1985, 17 recruitment visits were made to Beaufort area communities. New employment opportunities were publicized to communities in the immediate area, including: Tuktoyaktuk, Arctic Red River, Fort McPherson, Aklavik and Inuvik.



## 1985 RECRUITMENT PERCENTAGES BY COMMUNITY

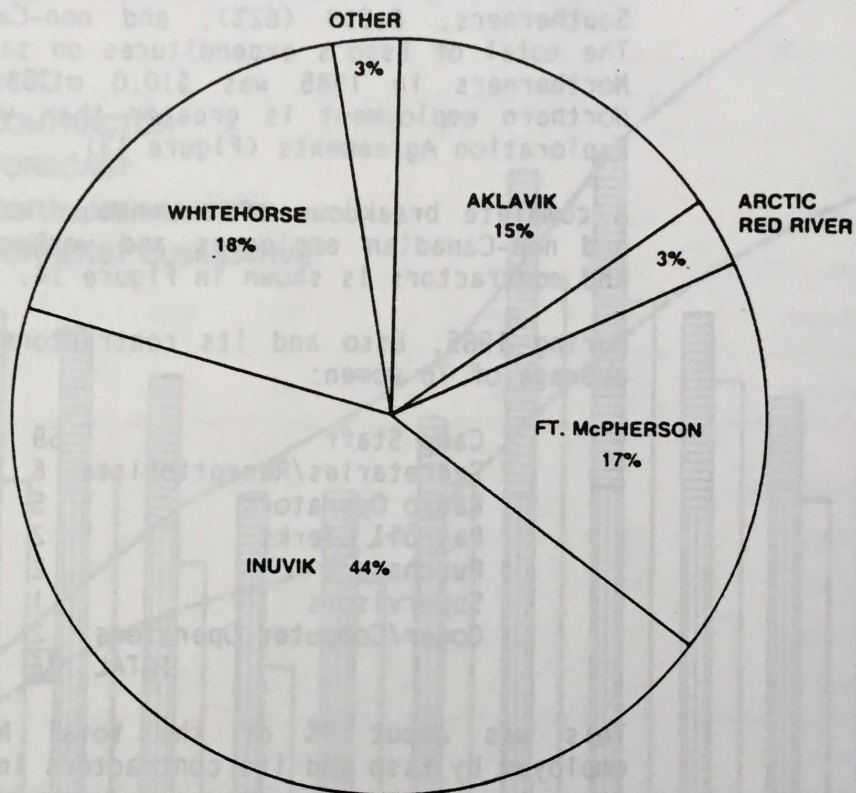


FIGURE 12

### 3.2 EMPLOYMENT

#### 3.2.1 1985 Employment Statistics

In the Beaufort operations, Esso and its contractors generated an average of 841 positions per month and 10,090 workmonths over 1985. These employment levels exceeded those forecast in the Exploration Agreements.

On an annual basis, Northerners held 60% of Esso's positions and 29% of contractors' positions. Of the total number of workmonths, Northerners contributed 3,588 (36%); Southerners, 6,299 (62%); and non-Canadians, 203 (2%). The total of Esso's expenditures on salaries and wages to Northerners in 1985 was \$10.0 million. This level of Northern employment is greater than was forecast in the Exploration Agreements (Figure 13).

A complete breakdown of the number of Northern, Southern and non-Canadian employees and workmonths for both Esso and contractors is shown in Figure 14.

During 1985, Esso and its contractors employed a monthly average of 76 women:

Camp Staff	58
Secretaries/Receptionists	6
Radio Operators	5
Payroll Clerks	2
Purchasers	2
Supervisors	1
Coder/Computer Operators	2
TOTAL	<u>76</u>

This was about 9% of the total Northern work force employed by Esso and its contractors in 1985.

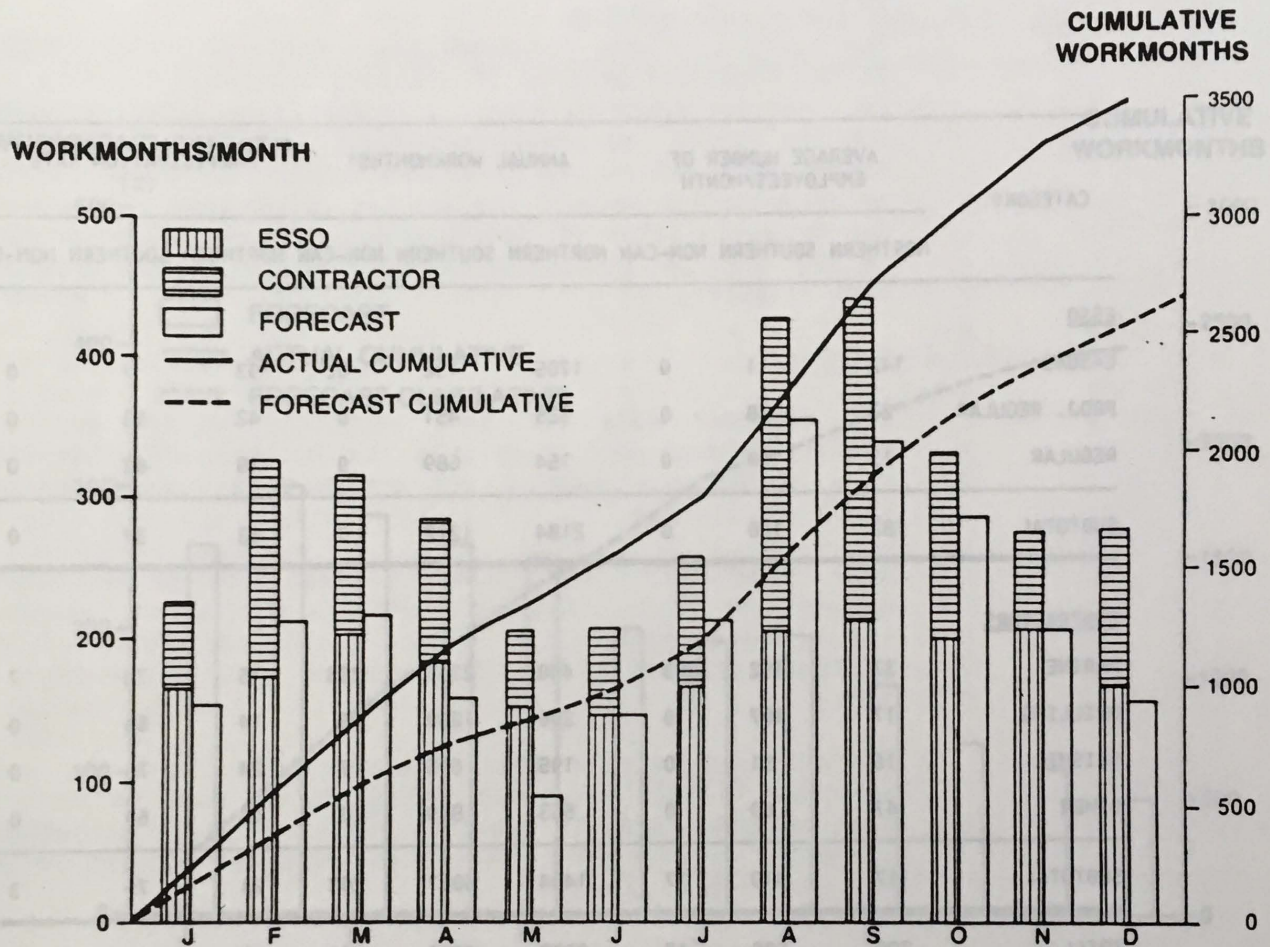
#### 3.2.2 1986 Employment Forecast

In 1986, the final year of the Exploration Agreements, employment will be maintained at the level shown in Figure 14 for the first quarter and then will decrease gradually until the end of 1986. Figure 15 shows the monthly forecasts of number of workmonths for Northerners in 1986. Due to the uncertainties of the program, Esso is unable to forecast 1986 employment in detail.

Plans for 1987 have not been finalized, but the level of activity will be significantly reduced.



## 1985 NORTHERN EMPLOYMENT BY MONTH



IN 1985, NORTHERNERS CONTRIBUTED 3588 WORKMONTHS,  
36% OF THE PROJECT TOTAL OF 10,090 WORKMONTHS.

FIGURE 13

# 1985 EMPLOYMENT STATISTICS

CATEGORY	AVERAGE NUMBER OF EMPLOYEES/MONTH			ANNUAL WORKMONTHS*			PARTICIPATION RATE (%)		
	NORTHERN	SOUTHERN	NON-CAN	NORTHERN	SOUTHERN	NON-CAN	NORTHERN	SOUTHERN	NON-CAN
<u>ESSO</u>									
CASUAL	142	11	0	1705	132	0	93	7	0
PROJ. REGULAR	27	38	0	325	451	0	42	58	0
REGULAR	13	57	0	154	689	0	18	82	0
SUBTOTAL	182	106	0	2184	1272	0	63	37	0
<u>CONTRACTORS</u>									
MARINE	37	192	203	440	2303	203	15	78	7
DRILLING	17	107	0	206	1280	0	14	86	0
SEISMIC	16	51	0	195	615	0	24	76	0
OTHER	47	69	0	563	829	0	40	60	0
SUBTOTAL	117	419	17	1404	5027	203	21	76	3
TOTAL	299	525	17	3588	6299	203	36	62	2
PROGRAM TOTAL	Ave. No. employees/mon = 841			Total Workmonths in 1985 = 10,090					

FIGURE 14



## 1986 NORTHERN EMPLOYMENT FORECAST BY MONTH

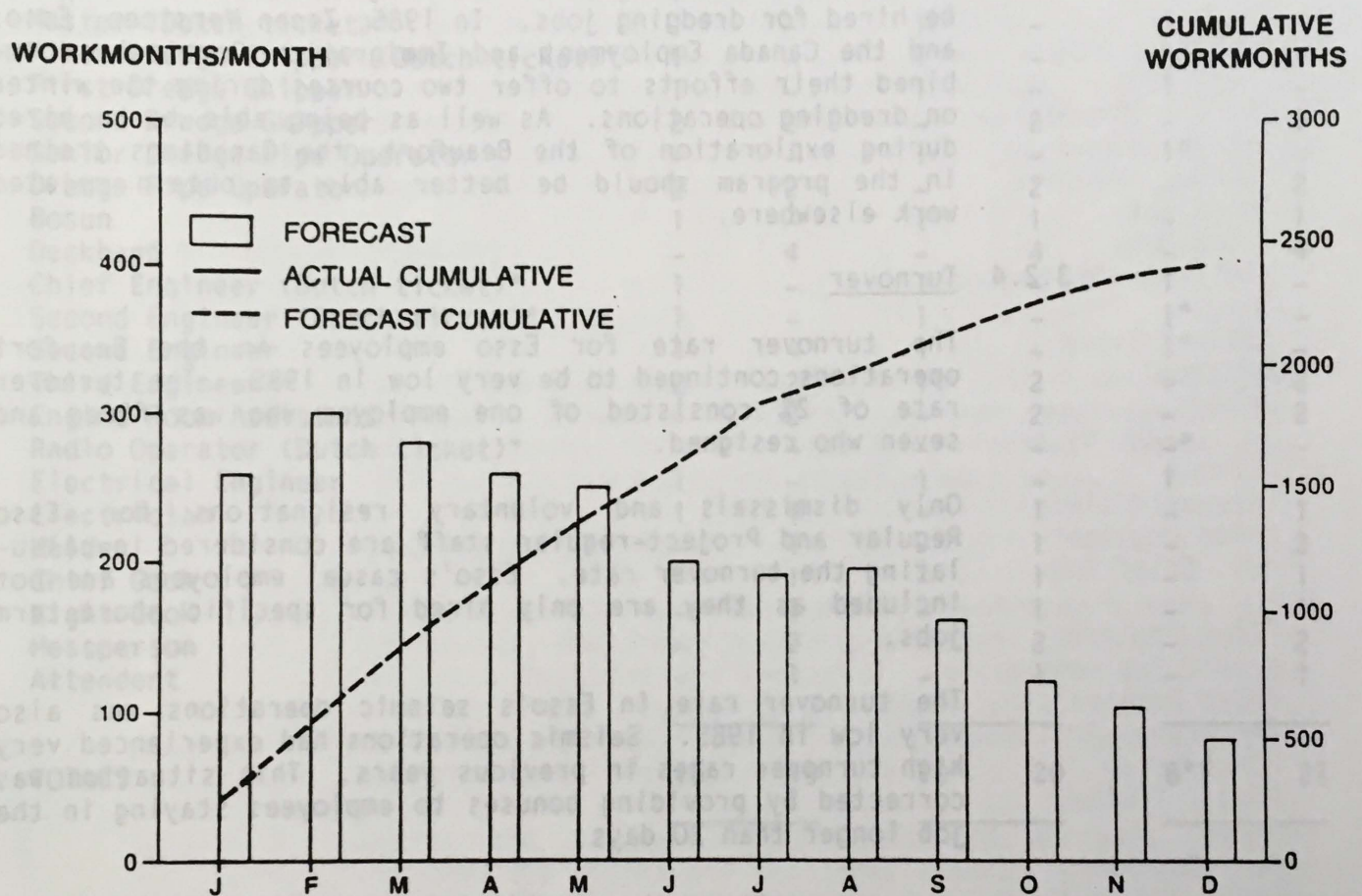


FIGURE 15

### 3.2.3 Canadianization Programs

The Canadianization of the crews of the contracted dredges proceeded at a faster pace in 1985 than was originally expected. Figures 16 and 17 show the Canadianization over time of the crews of the W.D. Gateway and the Cornelis Zanen dredging vessels.

The success of the Canadianization program is due largely to the excellent program of training Canadians so they can be hired for dredging jobs. In 1985, Zanen Verstoep, Esso, and the Canada Employment and Immigration Commission combined their efforts to offer two courses during the winter on dredging operations. As well as being able to be hired during exploration of the Beaufort, the Canadians trained in the program should be better able to obtain related work elsewhere.

### 3.2.4 Turnover

The turnover rate for Esso employees in the Beaufort operations continued to be very low in 1985. The turnover rate of 2% consisted of one employee who was fired and seven who resigned.

Only dismissals and voluntary resignations for Esso Regular and Project-regular staff are considered in calculating the turnover rate. Esso's casual employees are not included as they are only hired for specific short-term jobs.

The turnover rate in Esso's seismic operations was also very low in 1985. Seismic operations had experienced very high turnover rates in previous years. This situation was corrected by providing bonuses to employees staying in the job longer than 20 days.

## 3.3 TRAINING

### 3.3.1 Training Activities

Employee training is an integral part of Esso's Employee Development Program. The training provided to employees varies from position to position, but the major component is on-the-job training complemented with regular training sessions on job-specific topics.

New employees are trained by their immediate supervisors.



# CANADIANIZATION OF THE CORNELIS ZANEN

OCCUPATION	1983		1984		1985	
	Non-Can.	Can.	Non-Can.	Can.	Non-Can.	Can.
Master (Dutch ticket)*	1	-	1	-	1	-
First Dredge Skipper (Dutch ticket)*	1	-	1	-	1	-
First Dredge Skipper	1	-	1	-	1	-
Second Dredge Skipper	2	2 <sup>b</sup>	-	2	-	2
Senior Dredge Pipe Operator	-	-	1	-	1 <sup>d</sup>	-
Dredge Pipe Operator	2	2	-	2	-	2
Bosun	1	-	1 <sup>c</sup>	1	-	1
Deckhand	-	4	-	4	-	4
Chief Engineer (Dutch ticket)*	1	-	1	-	1	-
Second Engineer (Dutch ticket)*	1	-	1	-	1 <sup>d</sup>	-
Second Engineer	1	-	1	-	1 <sup>d</sup>	-
Third Engineer	2	2 <sup>b</sup>	1 <sup>c</sup>	2	-	2
Engine Room Assistant	-	2	-	2	-	2
Radio Operator (Dutch ticket)*	- <sup>a</sup>	-	- <sup>a</sup>	-	- <sup>a</sup>	-
Electrical Engineer	1	-	1	-	1	-
Electrician	1	1	-	1	-	1
Welder	-	1	-	1	-	2
Chief Cook	-	1	-	1	-	1
Night Cook	-	1	-	1	-	1
Messperson	-	2	-	2	-	2
Attendant	-	1	-	1	-	1
TOTALS	15	19	10*	20	8**	21

a Position exempt by Dutch shipping inspection.

b Double-banked position.

c Position double-banked by non-Canadian for first half of season only.

d Advisory position.

\* Two of these positions were double-banked positions for the first half of the season only.

\*\* Includes three advisory positions.

FIGURE 16

# CANADIANIZATION OF THE W.D. GATEWAY

OCCUPATION	1982		1983		1984		1985	
	Non-Can.	Can.	Non-Can.	Can.	Non-Can.	Can.	Non-Can.	Can.
Captain	1	-	1	-	1	-	1	-
Captain Trainee	-	-	-	-	-	1	-	1
First Mate								
(Dredge Skipper)	1	-	1	-	1	-	1	-
Second Mate								
(Dredge Skipper)	1	-	1	-	1	-	-	1
Third Mate	-	1	-	1	-	1	-	1
Third Mate	-	1	-	1	-	1	-	1
Advis. Dredge Skipper	-	-	-	-	-	-	1	-
Bosun	1	-	-	1	-	1	-	1
Bosun Trainee	-	1	-	-	-	-	-	-
Deckhand	-	2	-	2	-	2	-	2
Welder	-	1	-	1	-	1	-	1
Sr. Dredge Master	1	-	1	-	1	-	1	-
Pipeman	3	-	2	-	1	2	-	3
Pipeman Trainee	-	1	-	2	-	1	-	-
Chief Engineer	1	-	1	-	1	-	-	1
Adv. Chief Eng.	-	-	-	-	-	-	1	-
First Engineer	1	-	1	-	-	1	-	1
Second Engineer	1	-	-	1	-	1	-	1
Third Engineer	-	2	-	2	-	2	-	2
Third Eng. Trainee	-	1	-	-	-	-	-	-
Electrician	1	-	1	-	0.5	0.5	-	1
Elect. Trainee	-	1	-	1	-	1	-	-
Oiler	-	2	-	2	-	2	-	2
App. Engineer	-	1	-	1	-	1	-	1
Cook	-	1	-	1	-	1	-	1
Ass. Cook	-	1	-	1	-	1	-	1
Steward	-	3	-	2	-	2	-	2
	12	19	9	19	6.5	22.5	5	24

Note: Two Canadian divers were also working in 1982.

FIGURE 17



### 3.3.2 Training Statistics

In addition to regular on-the-job training, Esso employees receive formal training in job-related skills. In 1985, 771 workdays of formal training were provided to all Esso employees; 90 of these training days were provided to Northerners. The courses were aimed at developing skills in the trades, drilling, support services and materials management.

In addition to providing training within Esso's operational activities, training was supported through Esso's contribution to Tuk Tech. In 1985, Esso provided accommodation at its Tuk Base for twelve Tuk Tech students. (Esso hired one of these students after she completed her studies.)

## 3.4 SPECIAL MEASURES

### 3.4.1 Orientation Program

Supervisors provided orientations to new Northern employees. They reviewed safety, job requirements, employment terms, pay and benefits. As well, supervisors familiarized new employees with the work area.

### 3.4.2 Supervisor Training

Supervisors from both Esso and its contractors were given in Edmonton two 3-day training seminars, called "Supervising in a Northern Environment." Twenty-nine Esso supervisors, eight contractors' supervisors, and several federal and territorial government representatives attended these seminars.

During the seminars, Esso staff and Northern advisors reviewed the social and political aspects of the Northwest Territories concentrating on the need for improved communication. Course evaluations indicated that the supervisors appreciated the course and its applicability to their roles in the North.

### 3.4.3 Employee Counselling

The responsibility for the counselling of Northern employees was transferred to Esso's Inuvik office where three Human Resources employees are available to provide counselling services.



## 4.0 SOCIO-ECONOMIC ISSUES

### 4.1 COMMUNITY CONSULTATION

Esso continued to attend community meetings in the Northwest Territories and Yukon, especially in Tuktoyaktuk, Inuvik and Aklavik. At the meetings, Esso representatives learned of communities' concerns, obtained community advice and discussed how the communities could be involved in the industrial activities. In 1985, for example, community input was considered in planning the management of effluent from seismic camps.

Esso met with the Tuktoyaktuk Hunters and Trappers Association and the Hamlet Council to review the use of Tuktoyaktuk Harbour. The issue concerning ship crossings was not fully resolved, but procedures for improving the safety of crossings were agreed upon. Also, Esso participated in a joint community-government-industry committee studying recommendations for improving harbour management.

In 1985, Esso and the Inuvialuit Land Administration negotiated land use agreements under the regulations resulting from the Western Arctic Land Claims Settlement. This settlement, ratified by parliament in 1984, gave some land and surface rights to the Inuvialuit. The following agreements were signed in 1985: on November 11, 1985, the Oil and Gas Concession Agreement; on January 31, 1985, the Cooperation Agreement; and throughout 1985, various Participation Agreements. These agreements were subsequent to the Memorandum of Understanding signed on October 5, 1984.

Under the agreements, Esso obtained 17 land use permits for seismic access roads, drilling sites and radio repeater stations. These agreements will continue to provide the basis for land use in future exploration and development programs.

Esso continued to be involved in the Beaufort Development Impact Zone Society as in 1984 by:

- o providing financial support
- o participating in the meetings
- o arranging tours of industry facilities
- o improving the society's understanding of the oil industry

A new activity in 1985 was the experimentation with new community communication procedures with the Beaufort Development Impact Zone Society. The new procedures are intended to improve Esso's collection and use of community input.



Esso continued to issue "Esso North," a much appreciated publication about its northern operations, which includes information on the exploration program, business contracts, employment, and personal experiences of Northern staff.

#### 4.2 MONITORING RENEWABLE RESOURCE USE

In 1985, Esso continued monitoring of renewable resource use by:

- o continuing its whale monitoring program started 12 years ago
- o contracting local people for general shore cleanup
- o meeting regularly with local councils and Hunters and Trappers Associations in Aklavik, Inuvik and Tuktoyaktuk
- o working closely with special interest groups to obtain their input and concerns about resource use

#### 4.3 CONTROLLING SOCIAL AND CULTURAL IMPACTS

Esso is managing the Beaufort exploration activities in a manner that maximizes the Northern economic benefits while minimizing the negative social and cultural effects. The programs for business development, employment, and training described earlier in this report were undertaken to maximize benefits. Other programs, such as community consultation, employee counselling, employee orientation, and special seminars for supervisors were undertaken to minimize any negative impacts. Additional efforts to minimize negative impacts include Esso's following camp regulations:

- o shift rotations of two weeks on and two weeks off
- o dry camps
- o luggage checks
- o no firearms allowed in camps
- o no access to communities
- o direct flights to take employees to their home communities

Esso monitors the impact of its operations carefully through community visits, staff observation, counselling and through the Beaufort Development Impact Zone Society. When an observed social or cultural change is directly related to the exploration program, Esso mitigates the impact in the best possible way.

In the North, however, it has to be acknowledged that the fabric of Northern life is changing rapidly. Reasons for these changes are often independent of Esso's operations. Northerners are becoming deeply involved in today's technological and economic society and are ceasing to rely on the traditional way of life for their major livelihood. In their attempts to adapt to this new economic environment, Northerners are looking for entry

opportunities, training, and functional experience. Esso, through its operation in the Beaufort, is pleased to have been able to contribute to this complex development process.

#### 4.3 CONTROLLING SOCIAL AND CULTURAL IMPACTS

Esso is aware that the Beaufort exploration activities in a manner that maximizes the Northern economic benefit while minimizing the negative social and cultural effects. The programs for business development, employment, and training provided earlier in this report were undertaken to maximize benefits. Other programs, such as community consultation, employee counselling, and employee development, and social adjustment to exploration activities, are being implemented and will be continued. Additional efforts to minimize negative impacts include the following:

- strict limitation of two weeks on and two weeks off
- employee checks
- employee checks
- no off-road driving in towns
- no access to communities
- direct flight to take employees to their home communities

Esso monitors the impact of its operations carefully through community visits, staff of education, counselling and through the Beaufort Development Trust. When an observed social or cultural change is directly related to the exploration program, Esso initiates the impact within the best possible way.

In the future, Esso will continue to be aware of the fact that the Beaufort is a changing entity. Reasons for these changes are often independent of Esso's operations. Furthermore, Esso is committed to the Beaufort's social, cultural and economic development. In this regard, Esso is committed to adapt to the new economic environment. Furthermore, Esso is looking for ways



